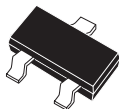


CMPT3646**NPN SILICON TRANSISTOR****SOT-23 CASE**

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3646 type is an NPN Silicon Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current, ultra high speed switching applications.

Marking code is C2R.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

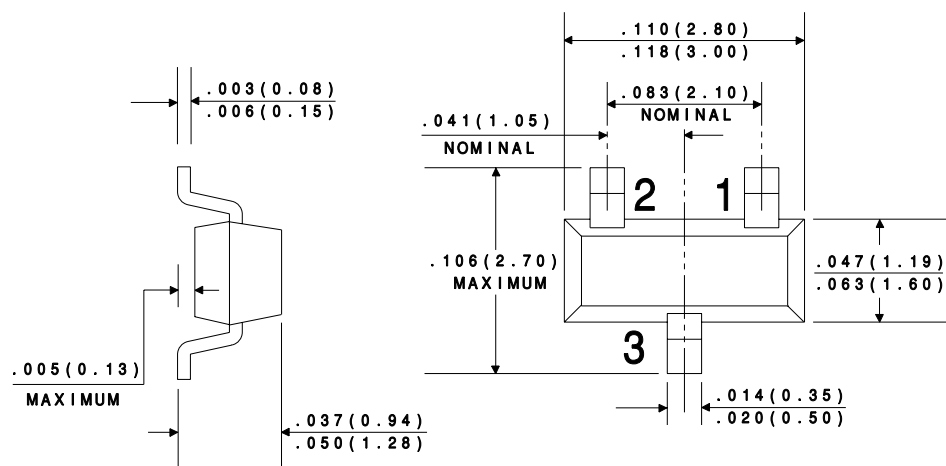
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CES}	40	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_{C}	200	mA
Power Dissipation	P_{D}	350	mW
Operating and Storage			
Junction Temperature	$T_{\text{J}}, T_{\text{stg}}$	-65 to +150	$^{\circ}\text{C}$
Thermal Resistance	θ_{JA}	357	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{\text{CE}}=20\text{V}$		0.5	μA
I_{CES}	$V_{\text{CE}}=20\text{V}, T_A=65^{\circ}\text{C}$		3.0	μA
BV_{CBO}	$I_{\text{C}}=100\mu\text{A}$	40		V
BV_{CES}	$I_{\text{C}}=10\mu\text{A}$	40		V
BV_{CEO}	$I_{\text{C}}=10\text{mA}$	15		V
BV_{EBO}	$I_{\text{E}}=100\mu\text{A}$	5.0		V
$V_{\text{CE}}(\text{SAT})$	$I_{\text{C}}=30\text{mA}, I_{\text{B}}=3.0\text{mA}$		0.20	V
$V_{\text{CE}}(\text{SAT})$	$I_{\text{C}}=30\text{mA}, I_{\text{B}}=3.0\text{mA}, T_A=65^{\circ}\text{C}$		0.30	V
$V_{\text{CE}}(\text{SAT})$	$I_{\text{C}}=100\text{mA}, I_{\text{B}}=10\text{mA}$		0.28	V
$V_{\text{CE}}(\text{SAT})$	$I_{\text{C}}=300\text{mA}, I_{\text{B}}=30\text{mA}$		0.50	V
$V_{\text{BE}}(\text{SAT})$	$I_{\text{C}}=30\text{mA}, I_{\text{B}}=3.0\text{mA}$	0.75	0.95	V
$V_{\text{BE}}(\text{SAT})$	$I_{\text{C}}=100\text{mA}, I_{\text{B}}=10\text{mA}$		1.20	V
$V_{\text{BE}}(\text{SAT})$	$I_{\text{C}}=300\text{mA}, I_{\text{B}}=30\text{mA}$		1.70	V
h_{FE}	$V_{\text{CE}}=0.4\text{V}, I_{\text{C}}=30\text{mA}$	30	120	
h_{FE}	$V_{\text{CE}}=0.5\text{V}, I_{\text{C}}=100\text{mA}$	25		

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=1.0V, I_C=300mA$	15		
f_T	$V_{CE}=10V, I_C=30mA, f=100MHz$	350		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		5.0	pF
C_{ib}	$V_{BE}=0.5V, I_C=0, f=1.0MHz$		8.0	pF
t_{on}	$V_{CC}=10V, I_C=300mA, I_{B1}=30mA$		18	ns
t_{off}	$V_{CC}=10V, I_C=300mA, I_{B1}=I_{B2}=30mA$		28	ns
t_S	$V_{CC}=10V, I_C=I_{B1}=I_{B2}=10mA$		18	ns

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR